

Application number 10/804,712
Amendment dated September 6, 2005
Reply to office action mailed June 8, 2005

PATENT

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

Claim 1. (Currently amended) An electronic system comprising:
a first integrated circuit comprising:
an input buffer coupled between a first supply terminal and a second supply terminal and further coupled to ~~receive an input signal on a pad~~; and
a clamp diode coupled between the pad and the first supply terminal; and
a resistor having a first terminal coupled to the pad, and ~~further a second terminal~~
coupled to receive an input signal.

Claim 2. (Currently amended) The electronic system of claim 1 further comprising:
a second integrated circuit coupled to the second terminal of the resistor and
configured to provide the input signal.

Claim 3. (Original) The electronic system of claim 1 wherein the clamp diode has a anode and a cathode, the anode is coupled to the pad, and the cathode is coupled to the first supply terminal.

Claim 4. (Original) The electronic system of claim 3 wherein the first supply terminal is configured to receive a positive supply voltage, and the second supply voltage is configured to receive a ground supply.

Claim 5. (Original) The electronic system of claim 1 wherein the integrated circuit further comprises:
a pull-up output device coupled between the first supply terminal and the pad; and
a pull-down output device coupled between the pad and the second supply voltage.

Application number 10/804,712
Amendment dated September 6, 2005
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PATENT

Claim 6. (Original) The electronic system of claim 5 wherein the pull-up device has a gate coupled to a first predriver circuit, and the pull-down device has a gate coupled to a second predriver circuit.

Claim 7. (Original) The electronic system of claim 6 wherein the integrated circuit further comprises:
a core comprising a plurality of logic gates, and one of the logic gates is coupled to provide a signal to the first predriver.

Claim 8. (Original) The electronic system of claim 6 further comprising a switch coupled between the pad and clamp diode.

Claim 9. (Currently amended) An electronic system comprising:
a first integrated circuit comprising:
an input buffer coupled between a first supply terminal and a second supply terminal and further coupled to ~~receive an input signal on a pad~~; and
a series of clamp diodes coupled between the pad and the second supply terminal; and
a resistor having a first terminal coupled to the pad, and ~~further~~ a second terminal coupled to receive an input signal.

Claim 10. (Original) The electronic system of claim 9 wherein the series of clamp diodes comprises four diodes.

Claim 11. (Currently amended) The electronic system of claim 10 further comprising:
a second integrated circuit coupled to the second terminal of the resistor and configured to provide the input signal.

Claim 12. (Original) The electronic system of claim 9 wherein each of the clamp diodes in the series of clamp diodes has an anode and a cathode, the anode of one of the

Application number 10/804,712
Amendment dated September 6, 2005
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PATENT

clamp diodes in the series of clamp diodes is coupled to the pad, and the cathode of one of the clamp diodes in the series of clamp diodes is coupled to the second supply terminal.

Claim 13. (Original) The electronic system of claim 12 wherein the first supply terminal is configured to receive a positive supply voltage, and the second supply voltage is configured to receive a ground supply.

Claim 14. (Original) The electronic system of claim 9 wherein the integrated circuit further comprises:

a pull-up output device coupled between the first supply terminal and the pad; and
a pull-down output device coupled between the pad and the second supply voltage.

Claim 15. (Original) The electronic system of claim 14 wherein the pull-up device has a gate coupled to a first predriver circuit, and the pull-down device has a gate coupled to a second predriver circuit.

Claim 16. (Original) The electronic system of claim 15 wherein the integrated circuit further comprises:

a core comprising a plurality of logic gates, and one of the logic gates is coupled to provide a signal to the first predriver.

Claim 17. (Currently amended) An integrated circuit comprising:
a buffer having a first supply terminal, a second supply terminal, and an input;
a clamp circuit coupled between the input of the buffer and the first supply terminal of the buffer; and
a resistor coupled to the input of the buffer,
wherein the ~~claim~~ clamp circuit comprises a clamp diode in series with a switch,
the switch configured to open and close under control of a first signal.

Application number 10/804,712
Amendment dated September 6, 2005
Reply to office action mailed June 8, 2005

PATENT

Claim 18. (Original) The integrated circuit of claim 17 wherein the resistor is further coupled to a pad.

Claim 19. (Original) The integrated circuit of claim 18 wherein the clamp circuit comprises one diode having an anode and a cathode, the anode coupled to the input of the buffer and the cathode coupled the first supply terminal.

Claim 20. (Original) The integrated circuit of claim 19 wherein the clamp circuit comprises a series of diodes each having an anode and a cathode, the anode of a first diode in the series of diodes coupled to the input of the buffer, and the cathode of a last diode in the series of diodes coupled to the first supply terminal.

Claim 21. (Original) The integrated circuit of claim 18 further comprising:
an output driver comprising:
a pull-up device coupled between the first supply terminal and the input of the buffer; and
a pull-down device coupled between the input of the buffer and the second supply terminal.

Claim 22. (New) The integrated circuit of claim 17 wherein the switch is a transistor having a gate coupled to receive the first signal.

Claim 23. (New) The electronic system of claim 1 wherein the integrated circuit further comprises a transistor in series with the clamp diode, the transistor having a gate coupled to receive a control signal.

Claim 24. (New) The electronic system of claim 23 wherein the control signal is provided by a memory cell.

Claim 25. (New) The electronic system of claim 1 wherein the integrated circuit further comprises:

Application number 10/804,712
Amendment dated September 6, 2005
Reply to office action mailed June 8, 2005

PATENT

a first transistor in series with the clamp diode, the transistor having a gate coupled to receive a control signal; and

a second transistor coupled between the pad and the first supply terminal, wherein the clamp diode is a drain-to-bulk diode of the second transistor.

Claim 26. (New) The electronic system of claim 1 wherein the integrated circuit further comprises:

a pull-up transistor coupled between the pad and the first supply terminal;

a first transistor coupled between the pad and a bulk of the pull-up transistor; and

a second transistor coupled between the bulk of the pull-up transistor and the first supply,

wherein the clamp diode is a drain-to-bulk diode of the pull-up transistor.